CLAIMS

1. A method for manufacturing a double-walled heat exchange tube with leak detection, wherein an inner tube is slipped into an outer tube, after a surface profiling has been provided on at least the outer surface of the inner tube or the inner surface of the outer tube, and, after the inner and outer tubes have been slipped one into the other, the inner tube is expanded such that the outer surface of the inner tube is in intimate contact with the inner surface of the outer tube and the surface profiling forms at least one leak detection channel between the two tubes, characterized in that

- prior to slipping the inner and outer tubes one into the other, at least the outer surface of the inner tube or the inner surface of the outer tube is provided with a layer of soldering material, such as tin;
- the expansion of the inner tube is effected such that the outer tube is expanded as well; and
- the layer of soldering material between inner and outer tube is caused to melt;

wherein the expansion of the outer tube is effected such that the molten layer of solder is largely forced out between the inner tube and the outer tube into the at least one leak detection channel.

2. A method according to claim 1, characterized in that the inner tube is manufactured from a softer material than the outer tube.

3. A method according to claim 1 ~~or 2,~~ characterized in that the surface profiling is carried out such that, measured on the respective surface of the respective tube, it occupies at most about 50% of that surface.

4. A method according to claim 3, characterized in that the surface profiling is provided in the form of a helical groove having a width of about 2 mm and a pitch of about 4 mm.

5. A method according to ~~any one of the preceding claims~~ claim 1, characterized in that the heating takes place by soldering on at least the outer surface of the outer tube or the inner surface of the inner tube, fin-shaped members such as a wire spiral wound helically around the tube.

6. A method according to ~~any one of claims 1-5~~ claim 1, characterized in that the outer surface of the inner tube is coated with a layer of soldering material and subsequently a surface profiling in the form of at least one helically extending groove is provided therein.

7. A method according to ~~any one of claims 1-5~~ claim 1, characterized in that the outer surface of the inner tube is provided with a layer of soldering material, and the inner surface of the outer tube is provided with a surface profiling in the form of longitudinally extending grooves.

8. A method according to ~~any one of the preceding claims~~ claim 1, characterized in that at each end of the assembly of inner and outer tube, a silver weld is provided at the seam between inner and outer tube.

9. A method according to ~~any one of the preceding claims~~ claim 1, characterized in that at at least one of the ends of the assembly of inner and outer tube, at least the inner surface of the inner tube or the outer surface of the outer tube is provided with an insulating coating of lacquer.

10. A heat exchange tube with leak detection comprising an assembly consisting of an outer tube and an inner tube in intimately abutting contact therewith, and at least one leak detection channel extending in and adjacent to the interface between inner and outer tube, characterized in that at the location of the contact between inner and outer tube, a film-thin layer from soldering material, such as tin, is present, which, through melting, is connected to both the inner tube and the outer tube, with the inner tube and the outer tube abutting against each other under a bias.

11. A heat exchange tube according to claim 10, characterized in that adjacent an end of the assembly of inner and outer tube, a through opening

is provided in the outer tube, which is in communication with the or each leak detection channel provided in the assembly.

12. A heat exchange tube according to claim 10 ~~or 11~~, characterized in that at at least one of the ends of the assembly of inner and outer tube, at least the inner surface of the inner tube or the outer surface of the outer tube is provided with an insulating coating of lacquer.

13. A heat exchange tube according to ~~any one of claims 10-12~~ claim 10, characterized in that onto at least the outer surface of the outer tube or the inner surface of the inner tube, fin-shaped members, such as a wire spiral wound helically around the tube, are soldered.

14. A heat exchange tube according to ~~any one of claims 10-12~~ claim 12, characterized in that on at least the outer surface of the outer tube or the inner surface of the inner tube, fin-shaped members, such as a wire spiral wound helically around the tube, are soldered, with those fin-shaped members being omitted along the length of the coating of lacquer.

15. A heat exchange tube according to ~~any one of claims 10-12~~ claim 10, characterized in that the surface profiling, measured on the respective surface of the respective tube, occupies at most about 50% of that surface.

16. A method according to claim 3, characterized in that the surface profiling is a helical groove having a width of about 2 mm and a pitch of about 4 mm.